

WHAT IS CLAIMED IS:

1 1. A fuel dispensing station comprising:
2 at least one fuel dispenser;
3 an ignition source detector for generating and transmitting a detection signal
4 indicating the presence of an unwanted ignition source; and
5 a control unit which receives said detection signal and generates a control
6 signal for output to said fuel dispenser, wherein said fuel dispenser responds to said control
7 signal by inhibiting the dispensing of fuel.

1 2. The fuel dispensing station of claim 1, further comprising:
2 a fuel-management unit and at least one communicator, wherein said detection
3 signal output by said source detector is received by a fuel-management unit, the fuel-
4 management unit outputting an information signal to the communicator to inform users that
5 fuel dispensing has been suspended.

1 3. The fuel dispensing station of claim 2, wherein said fuel dispenser includes
2 said control unit therein, and wherein said detection signal generated when said ignition
3 source is detected is transmitted to said control unit via said fuel-management unit.

1 4. The fuel dispensing station of claim 1, wherein said source detector is
2 provided on a canopy over said fuel dispensing station.

1 5. The fuel dispensing station of claim 1, wherein said source detector is
2 provided on a dispenser housing of said fuel dispenser.

1 6. The fuel dispensing station of claim 1, wherein said source detector is
2 provided internally within said fuel dispenser.

1 7. The fuel dispensing station of claim 1, wherein said source detector is
2 provided on a fuel nozzle.

1 8. The fuel dispensing station of claim 1, wherein said unwanted ignition source
2 comprises a spark, an open flame, or embers.

1 9. The fuel dispensing station of claim 1, wherein said fuel dispenser responds to
2 said control signal by temporarily suspending fuel supply.

1 10. The fuel dispensing station of claim 1, wherein at least one communicator
2 outputs signals by means of light, sound or both.

1 11. The fuel dispensing station of claim 1, wherein said source detector is an
2 Infrared (IR) detector.

1 12. The fuel dispensing station of claim 1, wherein said source detector is an
2 electromagnetic spectrum detector.

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- 1 13. A fuel dispensing station comprising:
- 2 at least one fuel dispenser;
- 3 an ignition source detector provided internally within said fuel dispenser for
- 4 generating a detection signal indicating an unwanted ignition source;
- 5 a fuel-management unit for transmitting said detection signal detected by said
- 6 source detector to at least one communicator; and
- 7 a control unit which receives said detection signal and generates a control
- 8 signal for output to said fuel dispenser, wherein said fuel dispenser responds to said control
- 9 signal by inhibiting the dispensing of fuel.

1 14. A method for preventing unintended ignition in a fuel dispensing environment
2 comprising the steps of:
3 detecting an ignition source;
4 communicating the detection of an ignition source to at least one of a
5 customer, an onsite personnel, and an offsite personnel; and
6 suspending the delivery of fuel in reaction to the detection of the ignition
7 source.

1 15. The method of claim 14 wherein the detecting includes detecting at least one
2 of a spark, an ember, and a flame.

1 16. The method of claim 14 wherein the communicating includes the use of light
2 or sound.

1 17. The method of claim 14 wherein the suspending includes suspending
2 operation of pumps in the dispensing environment.

1 18. The method of claim 14 further including the steps of:
2 detecting the absence of an ignition source; and
3 resuming the delivery of fuel in reaction to the detection of the absence of an
4 ignition source.

1 19. The method of claim 14 further comprising the steps of:
2 detecting the absence of an ignition source;
3 communicating the absence of an ignition source to at least one of a customer,
4 an onsite personnel, and an offsite personnel; and
5 allowing the resumption of fuel dispensing if requested by at least on of a
6 customer, an onsite personnel, and an offsite personnel.

1 20. The method of claim 19 further comprising the step of allowing resumption of
2 fuel dispensing only upon request by onsite personnel.

1 21. The method of claim 14 further comprising the steps of:
2 generating a detection signal upon detecting an ignition source;
3 transmitting the detection signal to a control unit;
4 generating a control signal in reaction to receipt of the detection signal at the
5 control unit; and
6 transmitting the control signal to at least one of a communicator and a fuel
7 delivery system.

1 22. A system for dispensing fuel comprising:
2 an ignition source detector which generates and transmits a detection signal
3 upon detecting at least one of a spark, an ember and a flame;
4 a fuel dispenser for delivery of fuel into containers or vehicles;
5 a communicator for communicating with either sound or light to at least one
6 of a customer in the vicinity of the fuel dispenser, an onsite personnel, and an offsite
7 personnel; and
8 a control unit operably connected with the ignition source detector, fuel
9 dispenser, and communicator and adapted to receive the detection signal transmitted by the
10 ignition source detector and in reaction to the detection signal generate and transmit at least
11 one control signal;
12 wherein the fuel dispenser receives the control signal and suspends the delivery of
13 fuel and the communicator receives the control signal and communicates the detection of an
14 ignition source.